

Table 1. Details of eelgrass spring seed bag deployment in the Patuxent River (2004).

Site	Size (acres)	# of Seeds	Seeds/Acre
Parrans Hollow	5	605,000	121,000
Parrans Hollow	1	245,000	245,000
Jefferson Patterson Park	1	150,000	150,000
Myrtle Point	2.5	300,000	120,000
Solomons Island	5	605,000	212,000
	Size (acres)	# Seeds	
Total	14.5	1,905,000	

Table 2. Details of eelgrass fall seed broadcast in the Patuxent River (2003).

Site	Size (acres)	# of Seeds	Seeds/Acre
Jefferson Patterson Park	3	300,000	100,000
	Size (acres)	# of Seeds	
Total	3	300,000	

Table 3. Details of eelgrass fall seed broadcast in the Patuxent River (2004 and 2005).

Year	Site	Size (acres)	# of Seeds	Seeds/Acre
2004	Parrans Hollow	0.25	37,500	150,000
	Hungerford Creek	0.25	37,500	150,000
	Solomons Island	0.25	37,500	150,000
		Size(acres)	# of Seeds	
	Total	0.75	112,500	
2005	Jefferson Patterson Park	3	201,000	67,000
	Hungerford Creek	2	134,000	67,000
	Myrtle Point	0.5	33,500	67,000
		Size (acres)	# of Seeds	
	Total	5.5	368,500	

Table 4. Details of seed enumeration for the fall seed broadcast method (2003-2005). The total number of seeds harvested was calculated as the sum of the number of seeds per ml and the total volume of seeds collected. An estimate of the number of viable seeds was also determined.

Enumeration by Method	Year	Number of Total Seeds	Number of Viable Seeds Prior to Seed Storage (% of initial total seeds)	Number of Viable Seeds After Seed Storage (% of initial total seeds)
Fall Seed Broadcast	2003	2,300,000	No Data	250,000 (11%)
	2004	15,120,000	No Data	1,058,400 (7%)
	2005	12,373,500	7,446,000 (60%)	2,527,000 (20%)

Table 5. Results of 2004 test plot plantings (November 2004) on the Patuxent River, MD. The initial success rate was determined as the proportion of the original 64 plants that persisted in May 2005. The continued success rate in July 2005 was determined as the proportion of the plants that survived from the May 2005 survey.

		<u>Parrans Hollow</u>	<u>Hungerford Creek</u>	<u>Solomons Island</u>
Plants Observed May	Test Plot A	43	25	52
	Test Plot B	54	30	54
	Test Plot C	<u>51</u>	<u>30</u>	<u>51</u>
	Average Plants Observed	49	28	52
Initial Success Rate May	Test Plot A	67	39	81
	Test Plot B	84	47	84
	Test Plot C	<u>80</u>	<u>47</u>	<u>80</u>
	Average Success Rate (%)	77	44	82
Plants Observed July	Test Plot A	15	3	4
	Test Plot B	5	4	3
	Test Plot C	<u>0</u>	<u>15</u>	<u>0</u>
	Average Plants Observed	7	7	2
Continued Success Rate July	Test Plot A	35	12	8
	Test Plot B	9	13	6
	Test Plot C	<u>0</u>	<u>50</u>	<u>0</u>
	Average Success Rate (%)	15	25	4

Table 6. Compilation of all eelgrass restoration efforts in the Patuxent River by restoration site (2003-2005).

Restoration Site	Year	Broadcast Method	Size (Acres)	Number of Seeds	Seeds/Acre
Parrans Hollow	2004	Fall Seed Broadcast	0.25	37,500	150,000
		Spring Seed Bag	5	605,000	121,000
			1	245,000	245,000
			Total Acres	Total Number of Seeds	
			6.25	887,500	
Jefferson Patterson Park	2005	Fall Seed Broadcast	3	201,000	67,000
	2004	Spring Seed Bag	1	150,000	150,000
	2003	Fall Seed Broadcast	3	300,000	100,000
			Total Acres	Total Number of Seeds	
			7	501,000	
Hungerford Creek	2005	Fall Seed Broadcast	2	134,000	67,000
	2004	Fall Seed Broadcast	0.25	37,500	150,000
			Total Acres	Total Number of Seeds	
			2.25	171,500	
Myrtle Point	2005	Fall Seed Broadcast	0.5	33,500	67,000
	2004	Spring Seed Bag	2.5	300,000	120,000
			Total Acres	Total Number of Seeds	
			3	333,500	
Solomons Island	2004	Fall Seed Broadcast	0.25	37,500	150,000
		Spring Seed Bag	5	605,000	212,000
			Total Acres	Total Number of Seeds	
			5.25	642,500	

Table 7. Summary of spring seed bag dispersal (June 2 and 4, 2004) results in the Patuxent River, MD. Using SCUBA, eelgrass seedlings were enumerated the following spring (May 2005) along two or three diagonal, non-destructive, 1m², belt transects across the study plots. The total number of seedlings along the 1m² transects was then used to extrapolate the number of seedlings present throughout the total area (m²) of the seeded plot. Initial planting success was then determined as the proportion of the total seedlings observed to the total seeds dispersed in the plot.

<u>Restoration Location</u>	<u>Area Planted (m²)</u>	<u>Total Seeds Dispersed</u>	<u>Seedlings Observed (May)</u>	<u>Area Surveyed (m²)</u>	<u>Average Seedlings/m²</u>	<u>Seedlings in plot</u>	<u>Initial Planting Success (%)</u>
Parrans Hollow-1	20,234	605,000	7	296	0.03	519	0.09
			7	301			
			9	301			
			TOTAL	23			
Parrans Hollow-2	4,047	245,000	2	205	0.03	120	0.05
			8	184			
			7	184			
			TOTAL	17			
Jefferson Patterson Park	4,047	150,000	6	106	0.04	155	0.10
			2	103			
			TOTAL	8			
Myrtle Point	10,118	300,000	0	146	0.01	80	0.03
			2	107			
			TOTAL	2			
Solomons Island	20,235	605,000	0	48	0.00	0	0.00
			0	49			
			TOTAL	0			

Table 8. Turbidity and Temperature data from two continuous monitoring stations in the Patuxent River are displayed graphically in Figures 17 (CBL) and 18 (Pin Oak). The red line on those graphs indicates an NTU of 5.38, the water clarity target for SAV that corresponds to 22% light penetrating to a depth of 1m in the Patuxent River. The percentage of time that turbidity exceeded this 5.38 NTU is presented for both the entire data set as well as the eelgrass growing season (March 1-October 31, where the full data set available). The percentage of time that temperature exceeded 30°C and 25°C, two upper temperature threshold limits for eelgrass plants to thrive, is presented for both the entire data set as well as the eelgrass growing season (March 1-October 31, where the full data set available). Both turbidity and temperature limits were also examined between the May 12th and July 26th survey dates in 2005.

			% Exceeding limit		
			Dates	CBL Station	Pin Oak Station
Turbidity	2003	Overall	June 20 - Nov 10	4.5	41.9
		Growing Season	June 20-Oct 31	4.6	45.6
	2004	Overall	March 1 - Nov 29	18.0	64.6
		Growing Season	March 1 -Oct 31	20.1	70.9
	2005	Overall and Growing Season	Apr 6 - Oct 31	13.2	54.7
		Between Surveys	May 12- July 26	24.8	62.7
Temperature (30 °C)	2003	Overall	June 20 - Nov 10	0.0	3.7
		Growing Season	June 20-Oct 31	0.0	4.0
	2004	Overall	March 1 - Nov 29	0.0	0.5
		Growing Season	March 1 -Oct 31	0.0	0.6
	2005	Overall and Growing Season	Apr 6 - Oct 31	1.6	8.0
		Between Surveys	May 12- July 26	0.3	9.1
Temperature (25 °C)	2003	Overall	June 20 - Nov 10	39.5	60.1
		Growing Season	June 20-Oct 31	39.5	65.7
	2004	Overall	March 1 - Nov 29	31.1	38.2
		Growing Season	March 1 -Oct 31	31.1	42.8
	2005	Overall and Growing Season	Apr 6 - Oct 31	45.9	52.3
		Between Surveys	May 12- July 26	46.6	61.3